CAR T cells targeting abnormal N-glycans for the treatment of refractory/metastatic solid cancers

Grant Award Details

CAR T cells targeting abnormal N-glycans for the treatment of refractory/metastatic solid cancers

Grant Type: Quest - Discovery Stage Research Projects

Grant Number: DISC2-13507

Investigator:

Name:	Michael Demetriou
Institution:	University of California, Irvine
Type:	PI

Award Value: $1,414,800

Status: Pre-Active

Grant Application Details

Application Title: CAR T cells targeting abnormal N-glycans for the treatment of refractory/metastatic solid cancers

Public Abstract:

Research Objective

Develop genetically modified chimeric antigen receptor T cells to kill incurable solid cancers by targeting a previously un-targetable tumor associated carbohydrate antigen.

Impact

Refractory/metastatic solid cancers are almost always incurable and have limited therapeutic options. Directing the immune system to kill cancer cells provides an unprecedented new approach.

Major Proposed Activities

- Engineer and optimize a genetically modified chimeric antigen receptor T cell that targets a tumor associated carbohydrate antigen with high sensitivity and specificity.
- Confirm the ability of the engineered CAR-T cells to kill diverse solid cancer cells.
- Assess the ability of the engineered CAR-T cells to kill glioblastoma cells, a highly deadly brain cancer.
- Assess the risk of toxicity to normal tissue from the engineered CAR-T cells.

Statement of Benefit to California:	The citizens of California will benefit from this proposal through development of a new and potent therapy for relapsed/metastatic solid cancers that are incurable and lack effective therapies. The California economy will also benefit from this project through creation and maintenance of bio-tech jobs and the potential to export the therapy worldwide. This project will also further California's international reputation as a global leader in innovation and bio-tech.

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